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ABSTRACT

This booklet describes Alvin Toffler's future society and culture and examines its potential impact on education. In his book, "The Third Wave," Toffler describes our civilization's progress through two major phases (waves). The First Wave began some 8,000 years ago when man became agricultural. The Industrial Revolution began the Second Wave. The Third Wave is just now starting. The values upon which the Third Wave society is based are: personal fulfillment, feelings of self-worth, and time for leisure; meaningful and stimulating work; individuals who are self-reliant and autonomous; and a reasonable degree of security. Because of education's lack of success in innovation and change, many doubt our educational system can respond, much less lead us into the Third Wave. If education is to be valued by a Third Wave population, education will have to be different. It will have to be less formal, expensive, and wasteful, and more individualized, realistic, humane, fun, and lifelong. The curriculum of the future will (1) focus on preventive mental and physical health; (2) create a responsive environment for learners; (3) be more integrated and will be organized around major topics; (4) emphasize acquisition of critical thinking and problem-solving skills; (5) stress the ability to locate and use resources; and (6) encourage building human relationships. More use will be made of interdisciplinary instructional teams often composed of specialized personnel from business, industry, and the professions. Also, there will be new organizational structures for schools. (Author/RM)

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THE THIRD WAVE AND EDUCATION'S FUTURES

FASTBACK 155

William C. Miller

Phi Delta Kappa
Educational Foundation

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By William C. Miller

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Series Editor, Derek L. Burleson

Introduction

Let's get organized for the future.
It's too late to organize the present!
Anonymous

The hunger to know the future is as old as humankind. In the past we pleaded with the gods, asked the oracles, or sought the counsel of soothsayers to help us know the future. Today, futurists maintain they don't predict—they forecast. They study current trends and identify alternative futures that may result, depending upon events and on human choice. One contemporary futurist and sage, Alvin Toffler, shared his exciting predictions in his book *Future Shock*,[1] which captured our imagination. Time has supported the wisdom of some of his insights. Now Toffler has presented us with even more comprehensive and challenging visions of the future in his latest volume, *The Third Wave*,[2] which describes a new society and culture. If he is correct, the implications for education are myriad.

In the year 2000 the world will contain 6.4 billion people, a 50% increase over today's population. The great proportion of these people will be desperately poor. This more crowded world will be much less stable ecologically and more vulnerable to disruption. *The Global 2000 Report to the President* predicts that the demand for energy will increase by 58% by the turn of the century; nuclear energy will triple by 1990.[3] A different world is in the making, one that will require new survival techniques and a new kind of person. This fastback will describe some of the factors that may have precipitated the Third Wave and then will examine its potential impact on education and suggest some appropriate responses by educational policy makers.

What is the Third Wave?

Nothing is permanent but change.
Heraclitus, 500 B.C.

Americans are confused and uncertain about what they want. They seem concerned about the shortages of energy but do not significantly curtail its use. They are reluctant to give up the comfort of big cars, central heat, or energy-consuming appliances. The pinch of inflation has caused only modest cutbacks in our living standards. Citizens are tired of big government and its costly bureaucracy but still demand services. Business and industry complain about government intervention yet want the protection of some of its regulations.

A growing minority seem disenchanted with our institutions and have lost faith in those who govern. They are often frustrated with their jobs and seek to find a new balance between work and leisure. They have rejected materialism and seem more interested in "being" than "having."

There is a renewed interest in citizen rights and greater sophistication in how to bring pressure to secure those rights. We have seen the rise of special and even single issue interest groups that have brought about political and legislative change but have also created a more fragmented society.

All around us is evidence that things aren't working, and there is a vague but growing concern about the direction in which our society seems to be drifting. We view with alarm the crime, inflation, hedonistic behavior, and shifts of values around us. In addition, we see an increasing frequency of personal disorders and mental illness. There seems to be a loss of inner harmony and a decreased sense of purpose. Many have noted a disheartening decline in their sense of community. People do not feel "connected" and are concerned about their growing sense of depersonalization. All about is a pervasive sense of despair. Individuals feel lost, powerless, and helpless. The vision of the years ahead is bleak, and we seem not to be able to agree on which direction to take for the common good. It is as if America were having a nervous breakdown!

The core of our society, the family, is changing. Formerly the family structure was clear—father at work, mother as homemaker, and, of course, children as integral parts of the group. Now only 16% of our households fit that model. More than half the nation's mothers work outside the home; 54% of all women 18 to 64 are in the labor force. There is a trend toward marrying later or not at all. A rapid increase in single parent homes is evident; from 1970 to 1976 there was a 33% increase in female heads of households. In addition, shifting morals condone living together and parenting alone.

There is a growing recognition that a more crowded, more polluted, more volatile world threatens our present standard of living. Complex, expensive, long term solutions are needed. Historically we have built our culture on solving problems effectively and rapidly, usually with technological solutions, but it is not likely that technology, business, or government, as we now know them, will provide the remedies. The conditions that are causing the fear and hopelessness may have to be dealt with by individual action.

Is the Third Wave Coming?

Perhaps there is no such thing as a 'new idea' . . . just wisdom rediscovered and synthesized in a new way.
Kevin O'Sullivan

Today's forces for change are many. Obviously, if our present mechanisms for coping with change aren't working, something must be done to insure our survival as a society. There is no longer a question of whether the world is changing. The question is how and how fast.

In *Technology Tomorrow*, William A. Conboy[4] captures this readiness for change in his thematic analysis of 126 studies of core needs, goals, and values published in the last ten years. He identifies seven personal priorities of Americans today. He says people want to know why—a sense of *purpose*. They want to have a voice—to *participate*. Citizens want to be *potent*—to have some control and power. Americans want to reduce threat and risk—they want *protection*. They want alternatives—more *pluralism*. They value their *privacy* more and more. They wish to enjoy themselves—they seek *pleasure*.

These priorities are present at the same time as our society faces a period of turbulence, disillusionment, and confusion, where present efforts to solve our economic and social problems are not working. Futurist Peter Schwartz[5] says this is not because the people in charge are poorly intentioned, or because there isn't enough money being spent; rather it's because we just don't know how to make the machinery work—it's too complicated and too vast. Schwartz feels we are "adrift in a sea of uncertainty." We no longer have the conditions that created the high levels of affluence in America, and they cannot be re-

created. Resources that were abundant and cheap are now scarce and expensive. We now mistrust those institutions in which we once had faith and which seemed to work. We helped rebuild a war-torn world, but now our former enemies are our too successful economic competitors.

How Do We Assess Our Future?

One of the most important things about any society, group, or individual is their attitude toward time and the future. Are we hopeful and willing to plan in order to cope successfully with emerging challenges? Do our behaviors, values, and policies reflect beliefs capable of moving our society forward? Do our views for the future reflect an achievement orientation or are they pessimistic?

Some of us feel that what happens in the future is like the roll of the dice—strictly chance. Others view the future as entirely predetermined. More hopeful individuals see the future as a river flowing irrevocably in a given direction but with some chance of making minor course changes. Futurists, on the other hand, look at the future in terms of possibilities, probabilities, and preferabilities. They are convinced that the years ahead offer a wide ocean of great opportunities to chart a variety of courses and select a multitude of destinations. Their predictions are based on the likely outcomes of choices we make now.

But how accurate are the predictions of forecasters and futurists? J. Scott Armstrong in *Technology Review*[6] examines the accuracy of experts and novices. He indicates that the predictions of a high-powered consultant who uses sophisticated forecasting techniques may not be any better than those of college students. While he does not say judgmental forecasting is useless, Scott suggests requiring the experts to prove the value of their expertise. Edward Newman, NBC-TV correspondent, says much of what futurists tell us is "flatly wrong." He points to the long history of "goofy forecasts."

Futurists themselves caution that it is permissible to forecast events or to estimate the time a predicted event will occur—but don't do both! Obviously futurology is not a science and certainly not an exact science. However, if we are to be in a position to study and make choices

among alternative futures, we need futurists and we need to consider what they have to tell us.

Major Characteristics of Waves One, Two, and Three

In the *Third Wave* Toffler describes our civilization's progress through two major phases (waves). The First Wave occurred some 8,000 years ago when man became agricultural and gave up his nomadic hunter culture. It made possible a more stable family life. A large family to work the land was an asset. The First Wave man looked for a mate who was strong, who could work in the fields, bear children, care for them, and teach them. The family, by necessity, was a solid, usually compatible group, where several generations lived together.

The Industrial Revolution began what Toffler calls the Second Wave, which continues today. The rise of factories called for a concentration of laborers. Fathers, and many mothers, worked away from the home, and children were seldom part of the family's work force. Eventually, the family transferred some of its functions to other institutions—schools, hospitals, day-care centers. In the Second Wave, the family began to take on more psychological functions; couples marry for companionship and support rather than for economic necessity; children are catered to; youthfulness is envied. Youth are frequently segregated for longer periods from the real world of work. As a result they are economically nonproductive, sometimes alienated, and have a high rate of unemployment.

Second Wave people tend to accept external authority and subscribe to the Protestant ethic which emphasizes thrift, hard work, and delay of gratification. In contrast, the society of the Third Wave values living in the "now."

Toffler sees a quantum jump in history when we reach the crest of the Third Wave, just now starting to build. He describes influential changes in mass media, family life, and commerce. Third Wave people will resist "massification." There will be a resurgence of the attitude that "small is beautiful" and a greater balance between work and leisure. Society will no longer be obsessed with children. Offspring will be fewer and parents will feel less guilty about leaving them to pursue their own interests.

The Second Wave corporation wants conforming behavior and expects workers to be satisfied to do their jobs without concern for how they fit with a larger whole. Individuals are part of the machine. This leads to depersonalization. The Third Wave employer is different. This person needs people who will accept responsibility, understand the implications of what they do, adapt quickly, and are in tune with their co-workers. The Third Wave organization will be less rigid and hierarchical. Many individuals will work part-time and report to several "bosses." There will be an increase in "flextime" where workers will come and go on an individual basis.

Toffler even sees the establishment of the "electronic cottage," a contemporary version of the cottage industry that characterized the early portion of the Industrial Revolution. He forecasts a shift of jobs from the office or factory back to the home. Since much of our work is information handling, our technology will permit us to do tasks wherever a computer terminal is located. Skyrocketing costs of transportation may make it feasible to have telecommunication replace commuting. Perhaps, then, families can become interdependent units as they were before the Industrial Revolution.

The values upon which Third Wave society is based are: 1) personal fulfillment, feelings of self-worth, and time for leisure; 2) meaningful and stimulating work; 3) individuals who are self-reliant and autonomous; 4) a reasonable degree of security. Given these priorities, what will education be like to serve this population? Can our educational system respond; and should it?

Can Education Respond to the Third Wave?

Progress is a nice word. But change is its motivator. And change has its enemies.
Robert F. Kennedy, 1964

Many doubt our educational system can respond, much less lead us into the Third Wave. But then the concept of our schools serving as instruments for social change is not new. Both Horace Mann and John Dewey advocated such a role. In 1932 George S. Counts wrote *Dare the Schools Build a New Social Order?*[7] In recent years legislatures and society in general have had high expectations of schools as institutions for curing racism, poverty, and cultural deprivation. Such hopes have more often than not gone unfulfilled.

Some consider improving society an unreasonable charge for our schools. Problems that are embedded in our economic, political, and social fabric cannot be resolved by our schools alone unless there is a total attack on all fronts. Educational reform, however, can be an important lever in the war against inequity and injustice.

Schools as Participators or Precipitators of Cultural Change

The next important question, then, is can education change? In the early 1970s John Goodlad identified 10 highly publicized instructional innovations that could reasonably be expected to be found in schools. These included such things as clearly stated educational objectives, emphasis on learning how to learn, a wide variety of instructional

materials, and individualized teaching. After an extensive study of schooling in 13 states, he concluded that the practices never reached the classroom.[8]

One need not look far for examples of education's lack of success in innovation. A very recent Commerce Department study maintains that U.S. schools stymie innovation and creativity. "We fear that the basic educational philosophy is far too biased in the direction of remedial learning and fails to identify, much less foster, the development of special talents or unique skills." The report asserts that the educational system performs better ". . . at preserving convention than sparking innovation, developing logical rather than conceptual thinking, promoting risk aversion rather than acceptance of change."[9] Certainly these are not the hallmarks of Third Wave education.

One of the problems may be that change efforts have focused on how to install "teacher proof" programs rather than involving staff to attack recognized local needs. A Rand study that looked at federal efforts to foster change revealed that the innovations had inconsistent and disappointing results. The reasons identified were: 1) no group of educational treatments consistently led to improved student outcomes; 2) "successful" projects had difficulty sustaining their success; and 3) "successful" projects were not disseminated automatically or easily. The results of "successful" projects in new sites usually fell short of their performance in the original sites. Further, the study found those programs that were successfully replicated were adapted by the staff to fit the new setting rather than adopted wholesale without modification. Effective strategies that heightened the likelihood of adoption were: concrete teacher training, at-the-elbow help, teacher observation of the practice, teacher participation in decision making, local materials development, and the principal's leadership and participation in training.[10]

Harry Wolcott in an unpublished paper[11] points out that most efforts at innovation fail because they "scratch where it isn't itching." In other words, people don't vary their behavior unless they feel some need that existing ways don't satisfy. Wolcott looks to the work of anthropologist Edward Spicer to understand resistance to change. He points out:

People resist changes that appear to threaten basic securities.

People resist proposed changes they do not understand.

People resist being forced to change.

People do not vary their customary behavior unless they feel some need that existing ways do not satisfy; such needs cannot be established by fiat.

Resistance to new programs may be centered not on the innovations but on the way in which such programs are administered. Under such circumstances, people's energies may be channeled into opposing the innovators, while the innovations themselves become symbols of that opposition.

Almost all changes proposed as a result of the extensive knowledge of science and technology originate in one subculture and, to be accepted, must be made intelligible and given value in terms of another subculture.

We know that change is upsetting. Stress is compounded when those being taught have significantly different values than those who are teaching. Furthermore, teaching Third Wave individuals, who wish to be fulfilled, self-reliant, and autonomous, can be threatening. Educators should be secure enough to welcome this new constituency of the Third Wave. Educating in the future will be a combination of joy and challenge.

Educating During the Third Wave

You cannot step twice into the same river,
for other waters are continually flowing in.
Heraclitus, 500 B.C.

Whether education leads us into the Third Wave or simply responds to every new pressure that arises in our society, one thing is obvious: education will have to be different. Even to serve as a mirror of society, our schools will have to change significantly.

Many citizens are convinced that our current education is not appropriate. Some encourage a move back to basics. Many question the clarity of the goals of the educational system and begrudge its costs. Other critics point out that what is offered is too past and present oriented—certainly not future oriented nor in concert with Third Wave trends. Citizens and students are asking tough questions about our present educational offerings:

Does going to school pay off with a more fulfilled life? A better job?

Are full-time, continuous schools necessary? Or even desirable? Are they just a way of keeping youth busy and out of the labor market?

Has appropriate use been made of the contributions of parents and older citizens to learning.?

Why isn't the community used as a laboratory for learning?

Why aren't there more programs of work-study and community service?

Are we confusing "being qualified" with "having learned?"

What ever happened to holistic, liberal education? Do we over train and under educate?

If education is to be valued by a Third Wave population it will have to be:

Less formal	More realistic
Less expensive	More humane
Less wasteful	More fun
More individualized	Lifelong

The Club of Rome's report *No Limits to Learning*[12] challenges us to innovate. It points out that science and technology have provided significant advances; and that sufficient economic means exist, if properly distributed, to meet the basic needs of all. At the peak of our knowledge and power, however, the quality of life seems to be deteriorating. To reverse this trend the Club of Rome contends "no limit learning" is required. Two characteristics of no limit learning are anticipation—the capacity to face new situations—and participation—to be partners in decision-making. Surviving with dignity, dealing with new developments, and being involved will be the hallmarks of the Third Wave.

Third Wave citizens will want to learn that which is useful and fulfilling. They will want to enrich their lives and improve their community. Students won't be motivated to learn because of fear of the teacher or of punishment. They will wish to learn because the process will be relevant and meaningful and the outcome productive.

New Resources for Learning Outside School

In the near future, learning will more and more often take place outside the classroom and outside the school. Parents, peers, and significant others are potent sources of information and have great impact on values and behavior. Public libraries, museums, zoos, and other institutions make contributions to learning. We are just beginning to recognize the educational role of television and other electronic means of communication. However, despite the potential instructional benefits of technology for the wide dissemination of information, schools aren't "into" technology. We have had well funded and publicized demonstrations of its use, but we still resist.

The major reasons that technology is not accepted by schools are its expense and its requirement that schools reorganize the curriculum.

Arthur Luehrmann in his paper for the National Science Foundation "Technology in Science Education"[13] points out that technological systems have failed because they are not compatible with existing instructional systems. Technology requires a large capital investment in hardware and software. Such systems can only become cost-effective when there is constant use of the equipment. To many educators this means standardization of the curriculum and replacement of the teachers by machines, which, of course, is threatening. Luehrmann observes that schools are small, decentralized, diverse, and independent. Schools do not initiate total instructional systems but, rather, hire teachers who have significant authority over what is taught and when it is taught. They usually work alone in individual classrooms. The reorganization of the school system and the changes required in teachers' behavior are difficult to bring about.

The debate over standardization of the curriculum and over whether a teacher or a responsive technological system can best provide for learner needs is a serious one. While this discussion is going on, however, libraries, museums, and especially the home and places of work are already beginning to embrace technology. The microcomputer, which has captured the imagination of young and old, is an excellent example. The home is on its way to becoming a major site of non-school learning through the availability of relatively inexpensive equipment now on the market.

The microcomputer, television, and other new technology that have potential for meeting the educational needs of our population will continue to flourish. Individualized, self-paced learning packets used to build job-related skills or to explore topics of personal interest are very consistent with Third Wave thinking and life styles. Modern technology makes at-home learning a practical reality.

Technology and social change are outracing our educational system. Third Wave thinking will demand significant changes in our school programs. What will these changes be like?

A Look at the Third Wave Curriculum

It's more important to spend time
imagining than remembering.
Anonymous

Tomorrow's curriculum and the direction of our future society are not completely predictable. However, with the likelihood of significant social change, our concept of the curriculum must be flexible. We must conceive alternative futures and a tentative educational system, a complex and challenging task. In *Learning for Tomorrow*[14] Harold Shane and June Shane say we must create an educational program that carries us:

From	To
Mass teaching	Personalized teaching
Single learnings	Multiple learnings
Passive answer-absorbing	Active answer-seeking
Rigid daily programs	Flexible schedules
Training in formal skills and knowledge	Building desirable attitudes and appreciations that stimulate a questing for knowledge
Teacher initiative and direction	Child initiative and group planning
Isolated content	Interrelated content
Memorized answers	Problem awareness
Emphasis on textbooks	Use of media in addition to texts
Passive mastery of information	Active stimulation of intellect

William Glasser[15] has identified a basic way in which today's students and those of the future will be different. In the past, pupils accepted the schooling provided with little question. They believed (with some accuracy) that if they stuck with the system and performed as requested they would complete high school with their future assured. They had goals. Glasser contends that the emerging student recognizes nonsense when he sees it and realizes education is often no guarantee of success. Important to this new breed of student is having a distinctive role. When the student's own role is paramount, not the roles imposed by others, a new, more participating type of learning emerges.

The curriculum of the future will also focus on preventive mental and physical health. The affective area will receive significant attention with the goal of creating the fully functioning person. Abraham Maslow[16] describes this fully functioning person as one who has:

1. Clearer, more efficient perception of reality.
2. More openness to experience.
3. Increased integration, wholeness, and unity of the person.
4. Increased spontaneity, expressiveness; full functioning; aliveness.
5. A real self, a firm identity, autonomy, uniqueness.
6. Increased objectivity, detachment, transcendence of self.
7. Recovery of creativeness.
8. Ability to fuse concreteness and abstractness.
9. Democratic character structure.
10. Ability to love.

If the need is to cope, Third Wave educators need to focus on affective and interpersonal issues in order to increase the holding power of education, reduce alienation, connect information with feelings, and help students learn. Earl Kelley contended, "How you feel is more important than what you know, because how you feel controls your behavior—what you know doesn't." We are cognitively oriented, but says Kelley, "When it comes to a battle between brains and glands, glands usually win." The challenge is how to cope with a tenuous kind of life. How can we create a school climate that will reduce stress, teach problem solving and thinking skills, and help kids learn to cope? How can we help them have accomplishments that give them a record of success? These are some of the challenges for a Third Wave curriculum.

Another goal of the Third Wave curriculum is to create a responsive environment for the learner. Ronald Gross in *Radical School Reform*[17] describes a responsive environment as one that permits the

learner to explore freely. He urges that we structure the environment so that the learner is helped to make a series of interconnected discoveries about the physical, cultural, and social world. He maintains that there is value in developing situations that provide students with immediate feedback about the consequences of their actions and provide for self-paced learning experiences. For some students, year-round learning will be prescribed. National and international travel will be common. There will be greater use of the "walkabout," an individually designed educational quest at an off-site location. Outward Bound, wilderness camping, or community service activity are examples of walkabouts.[18]

In *Future Shock* Toffler points out that present compartmentalized curriculum is not based on a well thought out concept of human needs.[19] A more integrated curriculum organized around major topics and developmental tasks will characterize the Third Wave. Elliott Seif at Temple University has proposed "Dare We Build a New Curriculum for a New Age,"[20] which has ten areas of focus:

1. Technological mastery and understanding
2. Cooperative living
3. Basic survival skills
4. Developing life options
5. Self-directed learning
6. Thinking, creative problem-solving, and decision-making skills
7. Communication
8. National and world-wide citizenship: Present issues-oriented education
9. Value-moral education
10. People matter

As we approach the Third Wave the tempo of social and technological change will accelerate. Information and instructional content will increase. Even today half our work force is directly or indirectly involved in information development and processing. Obviously learners will not be able to master all data they may need. The role of the teacher as a transmitter of knowledge and hearer of recitations will disappear; instead teachers will become managers of learning, who will spend time diagnosing instructional needs and prescribing educational experiences. The emphasis will be on acquisition of critical thinking and problem solving skills rather than acquisition of subject matter. The ability to locate and use resources will be paramount, and building human relationships will be a major part of the curriculum. More use will be made of interdisciplinary instructional teams often composed of specialized personnel from business, industry, and the professions.

The curriculum of the future will help students understand how technology works, how to assess its contributions and its limitations. Educators will make greater use of technology as they learn more about it, and as its use becomes more cost-effective.

Since there will be fewer jobs and shorter work days and weeks during the Third Wave, the school curriculum will de-emphasize the Puritan work ethic and prepare students to make better use of leisure time. The use of volunteers in schools will increase dramatically, because citizens with relevant skills will have time on their hands. Self-help networks and extensive people-to-people communications will be common. Since high levels of competence and performance will be demanded of educators, staff development will be a priority. The rapid technological and social changes will call for frequent retraining.

The concept of the future and the possibility of alternative futures must be a part of the curriculum. The fact that we have choices and by our actions can change future events is certainly consistent with Third Wave thinking. The study of the future should not be just a subject to be studied but should provide a perspective with which to view the world. It should be a focus for thought and learning for all, regardless of age.

What Impact Will the Third Wave Have on School Organization?

A Rand Report "How Effective is Schooling" says "Schools are mindless in the sense that they fail, in any operationally useful way, to question either the assumption upon which they operate or the relevance of the approaches to the needs of their students."[21] Education's response to the Third Wave means new organizational structures (smaller schools, schools within schools, student and parent advisory

committees with autonomy) and maximum student and parent involvement. Businesses, factories, museums, the public library, and the home all may serve as locations for Third Wave learners.

The Third Wave school organization should be a healthy one. *Change Processes in the Public Schools*[22] lists ten dimensions of a healthy organization:

1. It has a clear focus (its mission is known and accepted).
2. It has distortion-free communication (information is shared and travels well both vertically and horizontally).
3. Power is distributed equitably (subordinates have influence upward, inter-group conflict is not great, and reasonable autonomy is present).
4. Resources are well used (staff works up to its potential and feels self actualized).
5. There is cohesiveness (the organization pulls together).
6. Morale is high (feelings of self satisfaction and of organizational well-being are evident).
7. The organization is innovative (new procedures and products are invented).
8. It is autonomous (independent from its environment but not passive to outside demands).
9. It is adaptable (there is evidence of coping and reorganization in response to needs).
10. Problems are solved (an effective mechanism is in place to identify and marshal resources to attack problems).

Traditionally, our public school organization has resisted change. However, the Third Wave will make some changes imperative, even palatable. For example, early diagnosis of learning needs will begin at the preschool age. If infant education is required, then parenting programs will be provided simultaneously. Compulsory education will be eliminated; those who do not wish to stay in school may leave, but students of all ages will be welcomed into the educational system whenever they desire formal academic instruction, vocational preparation, skill building, or enrichment. As the years go by, it is likely that our educational system, like our political and economic structures, will be swept along with and by the Third Wave.

What Might the Third Wave School Be Like?

We ought to be interested in the future,
for that is where we are going to spend
the rest of our lives.
Charles F. Kettering

In order to get the flavor of students who are Third Wave thinkers, let's listen in on two students as they talk with their counselor, Mr. Abbott. Mr. Abbott with 30 years in education has seen a lot from his uneasy chair in the counseling office. Neither he nor the school has, as yet, entered the Third Wave. Like so many faculty he has mixed feelings about this new breed of students. He is puzzled about their goals but genuinely hopeful about what they can accomplish if their energies can be channeled into productive avenues.

Portraits of Third Wave Youth

Barb Evans burst through the door of the counseling office, plunked her books down on Mr. Abbott's desk, flopped into the chair, took a deep breath and began:

Barb: Can you believe it, Mr. Abbott? Can you believe that the board of education said, Okay?

Abbott: Slow down, Barb, what's got you so excited?

Barb: The acreage. All that beautiful land behind our school. Instead of the nature area we've been planning, they're going to consider selling it for commercial development.

Abbott: I'd heard that, Barb. Don't believe it's been decided yet. I'd suggest you check on the facts. Why not see Miss Kaughman at the Board Office. She knows what's on the agenda.

Barb: Well, I'll tell you, Mr. Abbott, some of us really feel strongly about this issue. We're going to go to the mat on this one!

Abbott: I realize that, Barb. Please check the facts and then let's talk again. Listen I've got an appointment now and . . .

Barb: Sure, sure. Okay. Check and double check. But I'll tell you, if that's the plan, we won't lie down and take it.

There was a knock on the door as Barb rose to leave. Sam Hoyt entered somewhat hesitantly as Barb brushed by him after a brief greeting.

Abbott: Glad you came in, Sam. We've been needing to talk for some time.

Sam: Well, I didn't want to bother you and . . .

Abbott: Bother! Sam, that's what I'm here for. You've been an excellent student, and you're a heck of a nice guy. It's been obvious to me that something is troubling you. School work? Home?

Sam: Oh, school is going okay. But I don't see much sense to it. I don't really know what I want to do with my life, and school work doesn't seem to have connection with what's going on in the world. Truthfully, I think I'll quit. At least for a while.

Abbott: Are your courses too tough? Maybe we could make some changes—it's not too late in the semester to . . .

Sam: No, I can handle the work, but—well look, this is what happened last night. I'm sitting in my room doing geometry. I finish half the homework. No trouble. I can do it. I understand it. But, I think to myself, why am I doing this? What good does it do me? Hell, I don't know what I want to do with my life. I'm not sure geometry will do me any good. Why should I waste my time doing that junk? I just . . .

Abbott: Sam, geometry is required for college prep graduation. Sometimes you've just got to take it on faith that it's required, that it's good for you . . .

The conversation went on for some time, but Sam was not convinced. Mr. Abbott was experiencing a new breed of students and he was confused. The old arguments he had given to students for "hanging in there" and graduating with the bait of a good job or a college education had no appeal. Mr. Abbott was pressing for a quick fix solution within the existing school program in a directive, persuasive way. He might better have asked some clarifying questions to indicate his support such as, "You feel school doesn't relate to what's important in your life right now?" or "You're thinking of leaving because school seems a waste of time?" He also might have responded to Sam's concerns by asking, "What can we do to help make school more 'connected' to you and your needs?" Forming a group of students with similar feelings to Sam's might also have been a helpful strategy.

Later Mr. Abbott told me: "I'll tell you frankly, the kids I see today are different. They have different values and react in new ways with an intensity I've never seen before. These kids want to participate. They want to be involved. They are ready, willing, and able to deal with current problems—but only if they are convinced of their importance. Boy, are they willing to work! They aren't apathetic like the kids in the 70s. They aren't angrily striking out at the system like we saw in the 60s. They just want to make things better. They're committed and they're smart. They know how to organize to get change.

"While their actions are unsettling sometimes, they are really great kids and fun to be around. They really have their thing together. You can't snow them with the 'it's good for you' routine. They truly live in the here and now. Don't give them that 'delay your gratification' line.

"If only we could learn to help them take advantage of their wonderful qualities. They are spontaneous, self reliant, willing to take risks for something they believe in. They are willing to give up comforts and to work long and hard for real solutions to tough problems. They are probers, good at inquiry, and uncompromising. My heart aches to see how much they want a sense of belonging—how they strive to understand themselves, to find a role, a sense of purpose and fulfillment. In all my years in teaching and counseling I've never met so many kids who are open, sincere, concerned about the direction of their lives and this nation.

"I'm worried though. Educators and society don't understand these kids. To tell the truth, they make me very uncomfortable. What will our future generation, who believe 'small is beautiful,' do in a world

where we are committed to big and impersonal organizations. Can our system stand a growing population who question our basic ideas and fight—fight effectively against traditional ways?"

What Are Some Specific Ways Schools Can Respond?

Of course the Third Wave school has not yet emerged. However, some youth who reflect the values of the Third Wave are in our schools, and some of our institutions have begun to respond. Many of our more sensitive educators have suggested a variety of ways schools can and should respond to help guarantee that the education provided in the future will be appropriate to the new age.

The late Howard Lane was a Third Wave thinker. In the book *On Educating Human Beings*[23] he provided some specific suggestions for creating a flexible school of the future. He maintained we should:

1. Tolerate wide varieties of behavior. Youngsters need standing as well as understanding.
2. Include young people in planning and management of the activities set up for them.
3. Provide adequate space and time for young people to be with their friends and to behave freely as young people.
4. Minimize competitive activities. Sponsor those in which all participants can achieve satisfaction.
5. Study and correct administrative practices in schools so that rejection of pupils, now practiced through a variety of methods, is reduced.
6. Organize community activities that increase satisfying relationships between grownups and youngsters. Get away from activities in which grownups use children as puppets and instruments.
7. Maintain perspective on the incidence of disorderliness among young people. The wrongdoings of a few boys, reported in the press, are not necessarily dangerous. How many acts of vandalism have you seen this week?
8. Restore young people to citizenship and community membership.

It is likely that Third Wave education will free staff from the confining strictures of behavioral objectives. But if we do, how do we choose

among the experiences we should provide for students? James Raths[24] provides a dozen criteria for the types of experiences that are worthwhile for students in a Third Wave society. Rath says, "All things being equal, one activity is more worthwhile than another if it:

1. Permits children to make informal choices
2. Assigns active roles to students
3. Asks students to engage in inquiry, to apply intellectual processes, and deal with current problems (personal or social)
4. Involves children with realia
5. Can be accomplished successfully by children at several levels of ability
6. Asks students to examine an idea, process, or problem in a new setting
7. Requires students to examine topics or issues citizens don't normally examine
8. Involves students and faculty in risk taking
9. Requires students to rewrite, rehearse, and polish initial efforts
10. Involves students in the application and mastery of meaningful rules, standards, or discipline
11. Gives students a chance to share in the planning, carrying out of an activity, or in the results of an activity of others
12. Is relevant to the expressed purposes of the students."

A Scenario for a Third Wave School

The only thing certain one can say about the typical day in a school during the Third Wave is that there will be no typical day. Participation, personalization, and flexibility will characterize the program of the Third Wave school. Gaining practical skills and education for personal growth and enjoyment will be part of the lifelong learning in a Third Wave society. Let's look at a student and the program, but let's recognize that we will see how only one school provides experiences for one student.

The School: Community High is three years old. It is a former factory completely converted for educational purposes when large numbers of families moved back into the city. The mass migration was precipitated by the greater efficiencies of energy and transportation and

because of access to the wealth of cultural resources that have come as part of the rebirth of the urban areas.

The Organization: The school is organized to serve as the student's home base where scheduling, contracting, counseling, and guidance take place. The Development/Resource Center provides necessary support and information to students and faculty. A school-within-a-school organization is used to foster communication and a sense of belonging. There is no set time to enter Community High. Students come and go at all times of the year to pursue interests or work on learning contracts. There is no specified duration for a student's association with Community High, nor is there any age limit.

The Staff: A student's mentor/guide maintains contact with the student throughout his/her association with Community High. Depending upon the learning contract, a student will have an occupation and/or community advisor. Both are volunteers and provide help and support during a student's work or community service contracts. Diagnostic/prescription staff, the student, and the mentor/guide identify needs and plan appropriate learning experiences. The Development/Resource Center staff cooperate in providing needed drill, practice, and skill development. Instructors are available in major content areas, and psychological and other support personnel are on call. As needed, representatives from each of these areas are called together by the mentor/guide to meet with the student and parents to block out an individual learning plan.

The Program: The curriculum is heavily based in the community. As much as half of a student's time is spent in either civic and social projects and/or on-site work experiences. Another 25% of the student's time involves counseling about these assignments and learning the skills necessary to be successful in the roles. For more mature, experienced students, national or international assignments are provided. The ultimate aim is to identify, in cooperation with the student, a major learning quest that will challenge the student and use the knowledge and skills gained to date. The remainder of the student's program, which has no predetermined starting or stopping time, focuses on personal enrichment and is likely to involve the arts or sports.

The Student: Kelly is seventeen years old and has been at Community High for three years. Planning and building a cabin in the school's recreation/conservation park is a major off-site activity. The current civic service involves helping with registration for the election primaries. Volunteer work with handicapped elementary students is another challenging contract. Because Kelly is considering a career as a forest ranger, a work contract has been arranged with the State Conservation Department with Ranger Doson serving as an occupational advisor. These more responsible assignments were selected and designed in cooperation with Kelly's mentor/guide with the support and suggestions of the members of the individual learning plan team. New skills in math and architecture are required to successfully carry out the cabin building assignment. Biology and science courses are also part of the formal school program because they are required for conservation work. Glee club, swimming, and basketball are also serious interests. With the mentor/guide's urging, both painting and theater are being explored to assure a well-rounded series of experiences.

A Typical Day: Kelly is up early today in order to have access to the main computer and its mechanical drawing capability, so there is a need to be on time. The final computations and the machine-generated architectural drawings should be ready unless the input was goofed up. The staff at the Development/Resource Center were of great help with the project, and the math instructor used the cabin design work as the basis of most of the skills work Kelly needed. Kelly hoped the design would be accepted. Applying academic skills to specific field projects made sense to Kelly, because it allowed for exploration of several potential career areas. Kelly felt completely comfortable with the knowledge gained from the project, with the practical nature of the assignment, and with the working conditions. After three hours at the Development/Resource Center, the drawings were ready to be delivered to Ranger Doson. Doson, together with Kelly and the Supervisor, will review the plans. If approved, Kelly will appear before the next student assembly to describe the project and request volunteers to work with Ranger Doson to construct the cabin under Kelly's direction.

Kelly went home for lunch and decided to take some time at the home terminal to check on the status of voter registration and to com-

plete and enter a math assignment on the computer so it would be available for the math instructor to retrieve and check later in the afternoon. Kelly looked at the clock and realized it was play practice time. The play is based on an original script that Kelly had a hand in writing.

Even though Kelly enjoyed the autonomy possible with the individualized contracts, the group activities were also a source of pleasure. Student government, glee club, and sports all provided interaction with others. In addition, since Community High was available to anyone in the community, it offered an opportunity to learn from older adults and to work with younger students. It was particularly gratifying to be able to tutor older persons and at the same time gain from them the insights of their vast experiences.

Play practice went well, which was reassuring with the performance only a week away. On the bus ride home Kelly thought through the remaining tasks to complete the learning contracts. Obviously more time on the home terminal would be needed this evening.

With the assignments up to date, Kelly decided to take the next morning off and with a few phone calls arranged a swimming party with friends for the next morning. Kelly snapped off the light and studied the patterns of light on the ceiling above the bed. Kelly was content; much had been accomplished. While not all decisions about the future had been made, the firsthand work and community service projects provided a secure foundation on which to plan next steps. With the backup and support of the mentor/guide and the other advisors, Kelly was certain that the years ahead would be satisfying, enjoyable, and productive.

Kelly's "typical day" has been condensed to provide information about the variety of experiences that might be possible in a Third Wave school. No student's program would be so hectic every day. Note the emphasis placed on guidance and counseling and how the teacher's role is not one of dispensing information. Socialization is not ignored. Third Wave students are comfortable with the use of technology. Observe too the extensive use of community resources, and how education has become a multi-agency responsibility. From the scenario it is impossible to discern whether Kelly is a male or female student. Freedom from sex stereotypes is another characteristic of a Third Wave school.

No brief scenario can provide a comprehensive view of education in the future, but by exercising the imagination one can conceive the vast possibilities.

Meeting the Challenge

We are made wise not by our recollections of our past,
but by the responsibility we take for our future.
George Bernard Shaw

If students of the Third Wave are autonomous, diverse thinkers, hopeful about the future, and willing to work to make things better, their teachers must be no less so! Teachers in Third Wave schools and universities will have to be flexible and welcome diversity. To educate successfully the youth of the future, teachers will have to be committed to independent learning and to teaching students to be self-directed. They will need to foster learning opportunities centered around local, national, and world issues, which often will be controversial. They will establish learning partnerships with other adults in business, industry, and labor communities.

Above all, the staff in a Third Wave school will seek to develop in students the desire to become lifelong learners. This means the faculty must also continue to learn through staff development experiences and through their own personal growth quests.

Third Wave teachers will individualize the daily program for each student by coordinating a wide variety of internal and external learning resources. They will be skillful diagnosticians who can analyze and prescribe for individual differences. They will maintain a balance between student self-selected experiences and teacher-directed learnings. Able to see the world from the student's point of view, they will personalize their teaching and foster the self-esteem of every student. Of

course, they will be knowledgeable about content areas, learning processes, and resources.

What will be the expectations for Third Wave administrators? They too must be people oriented—generous in giving credit and showing interest and concern for staff, both professionally and personally. They will play a key role in establishing a productive work climate. Administrators must be secure enough to involve others in decision making, yet be able to manage conflict when it surfaces. They must be experts in community relations and be committed to due process procedures in making policy decisions.

The Third Wave will sorely need effective leaders as well as efficient managers at both the school district and the university levels. Organizations must be maintained, resources monitored, and talent marshalled to get tasks done. Leaders who build on strengths—their own and others'—will play a vital role in successfully meeting the challenge of the Third Wave.

Change in tidal wave proportions is coming. As Toffler states "[W]e and our children will . . . take part in the exciting reconstruction . . . of civilization itself."[25] The major focus for educational reconstruction must be the curriculum. To respond to the Third Wave, leaders will have to recognize that the curriculum is changed as people are changed and that such change occurs through participation.

Footnotes

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